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*PROVISIONAL PATENT APPLICATION  
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17613 U.S. PTO  
60/553780  
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Docket No.: 49930.2250

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Sir:

Herewith is the provisional patent application of Applicants.

Applicants: Catherine Henwood Todd, Scottsdale, Arizona  
Andrew Clair Seys, Scottsdale, Arizona  
Mark D. Hannen, Scottsdale, Arizona  
E. Gary Myers, Scottsdale, Arizona  
Jim Warner, New York

TITLE: **APPLICATOR DEVICE**

PTO Customer No.: 20322

Including:

- ☒ 11 Pages of Specification
- ☒ Descriptive Title of the Invention
- ☒ Field of the Invention
- ☒ Background of the Invention
- ☒ Summary of the Invention
- ☒ Brief Description of the Drawings
- ☒ Detailed Description
- ☒ Abstract
- ☒ Claims ( 0 total, 0 independent)
- ☒ 6 (figs 1-6) sheet(s) of drawings: ☒ informal ☐ formal
- ☒ Acknowledgment Postcard

- ☐ Small entity status under 37 C.F.R. §§1.9 and 1.27 is being claimed.
- ☐ A verified statement to establish small entity status under 37 C.F.R. §§1.9 and 1.27 is attached.

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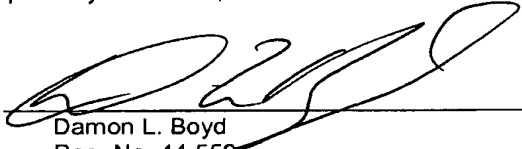
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Please send correspondence regarding this application to the undersigned attorney at the address given below. Please accord this application a serial number and filing date pursuant to 37 C.F.R. §1.53, and advise the undersigned thereof.

Respectfully submitted,

Date: 16 March 2004

By:

  
Damon L. Boyd  
Reg. No. 44,552

Snell & Wilmer L.L.P.  
One Arizona Center  
400 East Van Buren  
Phoenix, Arizona 85004-2202  
(602) 382-6337

**Title:       APPLICATOR DEVICE**

**Inventors:     Catherine Henwood Todd, Scottsdale, Arizona  
                  Andrew Clair Seys, Scottsdale, Arizona  
                  Mark D. Hannen, Scottsdale, Arizona  
                  E. Gary Myers, Scottsdale, Arizona  
                  Jim Warner, New York**

**Field of Invention**

[0001]           This invention relates generally to applicator devices, and more particularly, to applicator devices for dispensing and applying liquids such as soaps.

**Background of the Invention**

[0002]           Various liquids, particularly cleaning products such as detergents, cleansers and personal care products have historically not been integrated with the devices used to apply those products. For example, personal care cleansing products are traditionally provided as bottled liquids and creams or in bar form. The bottled liquids, such as bodywashes, are often applied to a separate sponge, washcloth or "poof" at the time of use. Similarly, bar soaps and the like are likewise separately applied to the applicator or body and, after application, scrubbed and/or rinsed off.

[0003]           However, consumers increasingly desire personal care products that are reusable, more convenient, simpler and effective. For example, consumers desire products which variously stimulate the skin, offer deep cleaning, are mild, exfoliate, moisturize as well as numerous other and combinations of such characteristics. Additionally, consumers desire products which have the appearance of an innovative approach to personal hygiene.

**Summary of the Invention**

[0004]           While the way in which the present invention addresses the disadvantages of the prior art will be discussed in greater detail below, in general, the present invention provides a applicator system comprising a combination applying device and material to be applied.

For example, in accordance with various embodiments of the present invention, the applicator system is particularly suited to the application of liquids integrated with a sponge or sponge-like device. For example, as used herein, "sponge" should be understood to refer generally to the applicator device, such device generally comprising a porous, water insoluble material capable of distributing a material such as a bodywash. Thus, in this sense, "sponge" comprises the traditional meaning of a sponge for cleansing, but likewise may include other known or as yet unknown devices such as cloths and "poufs." In such personal cleansing environments, the liquid is contained with the sponge, and by activating the sponge (e.g., squeezing it), a dose of liquid is distributed to the sponge matrix, and the applicator system can be used.

[0005] As such, an applicator system in accordance with the present invention comprises an applying device, the applying device comprising a substantially water insoluble material at least partially enclosing an outer surface of a liquid storage volume, the liquid storage volume containing a liquid to be applied, and a one-way valve connected to the liquid storage volume. In various embodiments, the liquid storage volume further comprises a containment material to which the liquid is impermeable. In accordance with various embodiments of the present invention, the one-way valve dispenses a pre-determined dose of the liquid contained therein.

[0006] In various embodiments in accordance with the present invention, the one way valve is further connected to the applying device and/or an environment external to the applying device. Additionally, in various embodiments, the applicator system further comprises a liquid exit port connecting an outer surface of the applying device and the one-way valve.

[0007] In accordance with various embodiments of the present invention, the applying device is a sponge and may further comprise first and second portions, attached at an outer

periphery of each. Alternatively, the first and second portions may be attached by a netting configured as a bag holding said upper and lower portions together.

[0008] In accordance with various embodiments of the present invention, applicator system further comprises a surface enhancer on an outer surface of the applying device, which in various embodiments may be a mesh netting, cloth or other material.

[0009] As will be discussed herein numerous advantages of the present invention may be realized in its various embodiments.

**Brief Description of the Drawings**

[0010] The subject matter of the present invention is particularly pointed out and distinctly claimed in the concluding portion of the specification. A more complete understanding of the present invention, however, may best be obtained by referring to the detailed description and claims in connection with the drawing figures, wherein:

[0011] Figure 1 is a block diagram illustrating an applicator system in accordance with the present invention;

[0012] Figure 2 is another block diagram illustrating an applicator system embodiment in accordance with the present invention;

[0013] Figure 3 is a block diagram illustrating another embodiment of an applicator system embodiment in accordance with the present invention;

[0014] Figure 4a is a cross-sectional front view of a personal cleansing device in accordance with the present invention;

[0015] Figure 4b is a top view of the personal cleansing device of Figure 4a;

[0016] Figure 4c is a cross-sectional side view of the personal cleansing device of Figure 4a;

[0017] Figure 4d is a front view of the personal cleansing device of Figure 4a;

[0018] Figure 4e is a cross-sectional top view of the personal cleansing device of Figure 4a;

[0019] Figure 5 is a perspective view of an alternative embodiment of a personal cleansing device in accordance with the present invention; and

[0020] Figure 6a-c are cross-sectional side views of the embodiment of Figure 5 in use.

**Detailed Description**

[0021] The following description is of exemplary embodiment of the invention only, and is not intended to limit the scope, applicability or configuration of the invention in any way. Rather, the following description is intended to provide a convenient illustration for implementing various embodiments of the invention. As will become apparent, various changes may be made in the function and arrangement of the elements described in these embodiments without departing from the scope of the invention as set forth in the appended claims. For example, in the context of the present invention, the applicator system is described herein with reference to particular shapes (e.g., as shown in the Figures), though the applicator system may have numerous shapes and configurations depending upon its particular use. Likewise, though the applicator system is described herein largely in connection with personal care uses, notably bodywash application, the system may be adapted for various other uses and liquids as well. For example, the applicator system may find use in many different fields such various household (washing dishes, general cleaning, etc.) and commercial (washing/maintaining machinery, equipment, vehicles, etc.). As such, terms in the following description should not generally be used to limit the applicator system to personal care related uses or materials.

[0022] That said, with reference to FIG.1, an applicator system 100 in accordance with the present invention provides an application matrix 110 in communication with a liquid to be dispensed 120. For example, in accordance with various embodiments of the present



invention, upon an activation by a user, liquid 120 is transmitted to application matrix 110, and application matrix 110 is used to apply liquid 120.

[0023] In various embodiments, application matrix 110 is in physical communication with reservoir 130 containing liquid 120 via, for example, contact between the two and/or by a liquid transport mechanism 140. In this context, briefly, reservoir 130 may be any suitable volume capable of containing liquid 120. For example, reservoir 130 may simply be a cavity formed in matrix 110. Alternatively, reservoir 130 may comprise a containment vessel (e.g., a bottle or pouch) configured as a distinguishable component of system 100, preferably comprising a material impermeable to liquid 110.

[0024] With reference to FIG.2, in various exemplary embodiments, reservoir 130 is adjacent to matrix 110. Alternatively, with reference to FIG. 3, reservoir 130 is contained within matrix 110. Moreover, as should be appreciated by one skilled in the art, any number of configurations of reservoir 130 and matrix 110 which facilitate contact and/or transmission of liquid 120 from reservoir 130 to matrix 110 are possible, for example, where the reservoir is partially enclosed within matrix 110.

[0025] In accordance with various exemplary embodiments of the present invention, transport mechanism 140 provides for the movement of liquid 120 to matrix 110. For example, with reference to FIGS. 2 and 3, transport mechanism is an area 140 between matrix 110 and liquid 120 through which liquid 120 may pass to matrix 110. Thus, area 140 may simply comprises a passageway between liquid 120 and/or reservoir 130. Alternatively, area 140 may comprise a gate (e.g., a valve) having OPEN and CLOSED positions selectively capable of distributing liquid 120. Further, while in the present description, area 140 is illustrated as contained inside an outer surface of matrix 110, it should be appreciated that various alternative embodiments, area 140 may transmit liquid 120 directly to the outer surface of matrix 110 for application. Additionally, in various embodiments, area 140

provides the ability to meter the amount of liquid 120 exiting reservoir 130 at a given time. In such embodiments, depending upon the total amount of liquid 120 provided and the amount distributed during each use, applicator system 100 may have more than one use and therefore be reusable. Additionally, as will also be described below, various embodiments of the present invention may provide the ability to replenish the volume of liquid 120 in system 100 after it has been depleted.

[0026] Now, as mentioned above, applicator system 100 may be particularly suited to the application of liquids such as bodywash integrated with a sponge or sponge-like device, wherein the sponge is a porous matrix capable of temporarily containing liquid 120 until application, after transport from reservoir 130. In such personal cleansing environments and referring briefly to FIGS. 6a-c, the liquid is contained with the sponge, and by activating the sponge (e.g., squeezing it), a dose of bodywash 120 is distributed to sponge matrix 110, and applicator system 100 can be used to apply bodywash 120.

[0027] For example, with reference now to FIGS. 4a-e, applicator system 100 is described in the context of a bodywash applicator. System 100 comprises matrix 110 as an elastically deformable, at least semi-porous material such as a sponge. Sponge 110 is preferably configured having a shape which is ergonomically shaped to fit the contour of an average human hand. For example, a preferable shape is an "hourglass" design with a long axis of about 5 to about 6 inches, a thickness of about 2 to about 3 inches, a major width (widest portion) of about 3 to about 4 inches and a minor width (narrowest portion measured at an approximate center) of about 2.5 to about 3 inches, with a gentle taper from minor to major widths.

[0028] Disposed within sponge 110 is reservoir 130 containing bodywash 120. Preferably, reservoir 130 is a deformable pouch comprised of a material impermeable to bodywash 120 such as plastic, foil or other functionally similar material now known or as yet unknown in

the art. For example, pouches manufactured by KAPAK Corporation of Minnesota or Polyworks LLC of Rhode Island are exemplary of pouches which can be used in accordance with the present invention.

[0029] In the presently described embodiment, pouch 130 further comprises transport area 140 configured as a valve between pouch 130 and sponge 110 to permit transport of bodywash 120 from pouch 130. Preferably, valve 140 is configured to allow the passage of bodywash 120 upon user activation (described below), but after initial activation and bodywash 120 dispensation, prevent further distribution of bodywash 120 and prevent bodywash and/or any other material from re-entering pouch 130. Valves having such capabilities are referred to herein as "one-way" valves. Moreover, preferably, in various embodiments, valve 140 is metered to dispense a pre-determined amount of bodywash 120. Valves having such metering capabilities are referred to herein as "metered" valves. For example, in the presently described embodiment, valve 140 is a one-way, metered valve which distributes about 1.5 grams of bodywash 120 for each activation.

[0030] Additionally, in accordance with various embodiments of the present invention, by metering bodywash 120 through sponge 110, smaller amounts of bodywash 120 are necessary to achieve similar results of relative to conventional bodywash techniques which use greater amounts of bodywash. Similarly, using concentrated bodywash formulas within reservoir 130 means less bodywash is need to achieve results comparable to conventional bodywash formulas. As such, in various embodiments of system 100, reservoir 130 need not contain large amounts of bodywash 130 to obtain "number of use" and efficacy characteristics similar to industry standard bodywash bottles.

[0031] Additionally, with reference again to FIGS. 6a-c, in one exemplary embodiment, a first squeeze of sponge 110 opens valve 140 to allow distribution of bodywash 120. In various embodiments, the distribution may be continuous until a second squeeze is applied

to close valve 140. Thus, after an initial squeeze, one may apply the bodywash and deactivate after use, or alternatively, squeeze twice consecutively to distribute one "dose" and then apply bodywash 120.

[0032] It should be appreciated of course that various bodywash compositions may require differing amounts to be distributed for optimal efficacy. As such varying amounts to metered may be pre-determined and/or multiple activations of valve 140 may be required during one actual use. Similarly, in the context of non-personal care type applications, different amounts of liquid to be dispensed may likewise be required, and alternative metering numbers and/or valve 140 activation may be required. Nonetheless, such amounts still fall within the ambit of the present invention.

[0033] In accordance with further aspects of the present invention, a bodywash portal 150 may be provided to facilitate transport of bodywash 120 to an external surface of sponge 110. For example, with reference to FIG. 4b, four portals 150 are provided as tubular formations between the outer surface of sponge 110 and valve 140. It should be appreciated, of course, that any number of portals 150, if any, may be used in accordance with the present invention depending on the particular application and desired characteristics.

[0034] In accordance now with another aspect of the presently described embodiment, sponge 110 further comprises a first (upper) portion 110a and a second (lower) portion 110b. Upper and lower portions 110a,b are suitably deposited opposite one another and, in various embodiments, define a cavity enclosing pouch 130. However, in various alternative embodiments, the elastic nature of the material of sponge 110 may provide for the ability to enclose pouch 130 without pre-defining a cavity and additionally provide advantages such as continuous pressure exerted on pouch 130, thereby facilitating dispensation of bodywash 120.

[0035] In this embodiment, upper and lower portions 110a,b are preferably maintained around pouch 130. For example, in one embodiment, upper and lower portions 110a,b are attached at a peripheral edge of each. For example, the peripheral edges may be sewn, glued, heat fused or attached by other suitable mechanism now known or as yet unknown in the art.

[0036] In accordance now with another aspect of the presently described embodiment, system 100 further comprises a surface enhancer 160 on the outer surface of sponge 110. In general, surface enhancer 150 is any surface characteristic which provides functional change to the surface of sponge 110. For example, sponge 110 may have one or more raised or indented features on its exterior surface. Such features suitably provide control over the texture, feel and cleansing characteristics of sponge 110. For example, in the context of personal care, raised ribs or dimples may provide scrubbing benefits, exfoliation or epidermal massage. Similarly, in the context of general cleaning, surface enhancers may provide abrasion benefits.

[0037] In one embodiment, as is illustrated in FIG. 5, surface enhancer 160 comprises a mesh netting covering at least a portion of the outer surface of sponge 110, preferably proximate to valve 140 and/or portals 150. In the present embodiment, mesh netting 160 is comprises nylon string. The mesh pattern may thus provide benefits such as those mentioned above. It should thus be appreciated that surface enhancer 160 may comprise numerous different configurations of numerous different materials and still fall within the ambit of the present invention. For example, various cloth coverings might be used as surface enhancer 160.

[0038] In various embodiments, mesh netting 160 may also entirely envelop sponge 110. For example, mesh netting 160 may comprise a bag or tube-like configuration into which sponge 110 is placed. Such embodiments may be particularly advantageous in providing the

attachment mechanism in embodiments having more than one sponge. For example, in connection with the embodiment described immediately above wherein sponge 110 comprises an upper and lower portion 110a,b, a bag-type mesh netting 160 suitably maintains the two portions 110a,b together. Additionally, netting 160 may be configured to be removable so that pouch 130 can be refilled or replaced, extending the life of system 100. Additionally, different bags having varying textures and characteristics may be substituted.

[0039] Finally, various principles of the invention have been described in illustrative embodiments. However, many combinations and modifications of the above-described structures, arrangements, proportions, elements, materials and components, used in the practice of the invention, in addition to those not specifically described, may be varied and particularly adapted to specific environments and operating requirements without departing from those principles.

**Abstract**

The present invention provides an applicator system comprising a combination applying device and material to be applied. For example, the applicator system is particularly suited to the application of liquids integrated with a sponge or sponge-like device. In such personal cleansing environments, the liquid is contained with the sponge, and by activating the sponge (e.g., squeezing it), a dose of liquid is distributed to the sponge matrix, and the applicator system can be used.

100

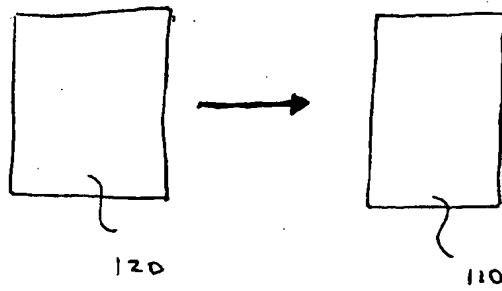


FIG. 1



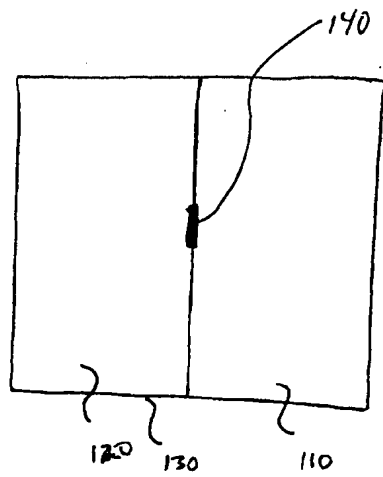


FIG. 2

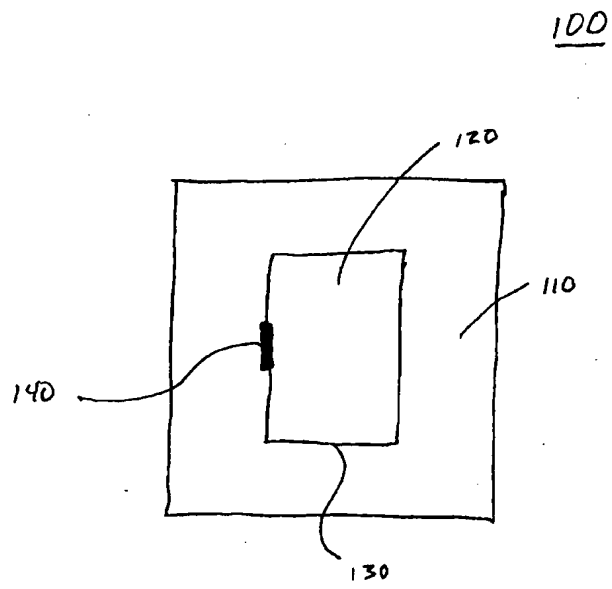


FIG. 3

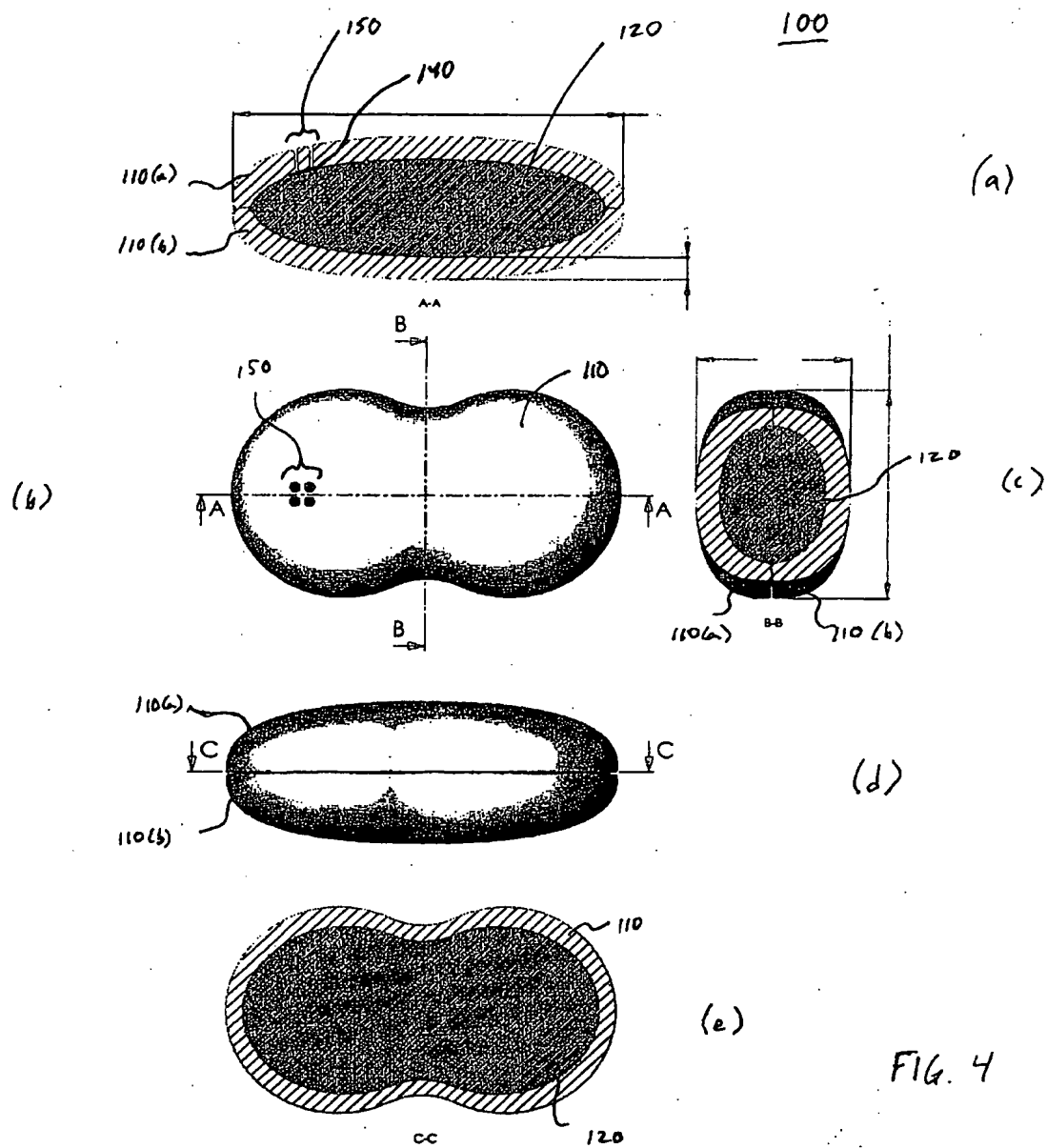


FIG. 4

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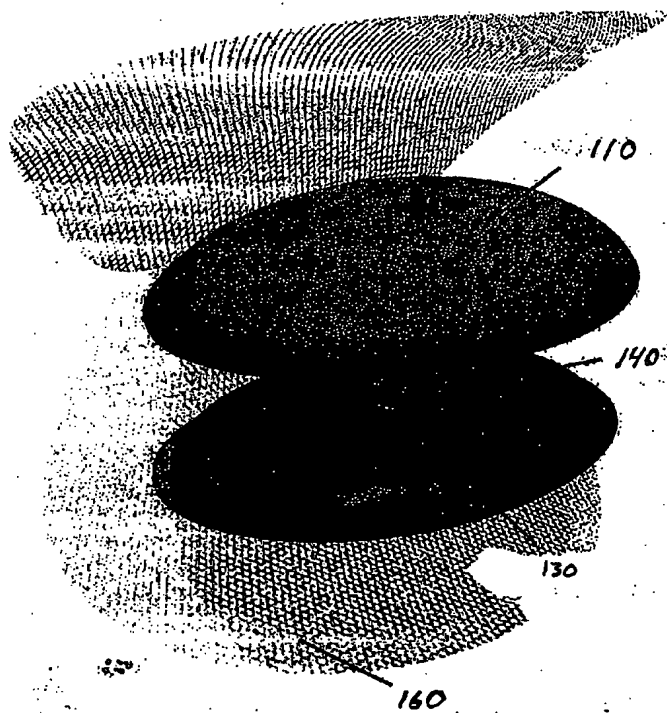
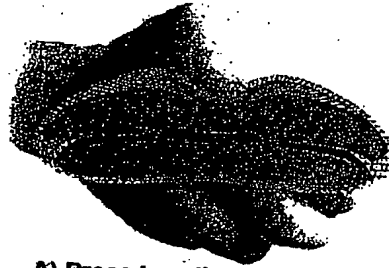


FIG. 5

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**A) Press to activate One-Way Valve.**



**B) Squeeze to dispense Product, Lather, and Clean.**



**C) Press Again to Shut Off.**

**FIG. 6**